CLAIMS

1. Apparatus for at least one of freezing and thawing at least one bioproduct, comprising:

a unit for at least one of freezing and thawing at least one bioproduct on a small scale, the unit comprising at least two opposite surfaces;

wherein at least one of the at least two opposite surfaces is coupleable to at least one driving device for at least one of freezing and thawing, and wherein the at least two opposite surfaces are proportionally spaced to correspond to a freezing path length of a larger-scale unit or section thereof for at least one of freezing and thawing a bioproduct.

2. The apparatus of claim 1, further comprising at least one driving device for at least one of freezing and thawing, wherein the at least one driving device is coupleable to the at least one of the at least two opposite surfaces.

3. The apparatus of claim 2, wherein the at least one driving device comprises at least one conduit for a heat-transfer fluid.

4. The apparatus of claim 3, wherein the at least one conduit comprises a winding conduit.

5. The apparatus of claim 1, further comprising at least two clamping arrays coupled to the unit for holding a plurality of bioproduct containers.

6. The apparatus of claim 5, wherein the at least two clamping arrays are coupled to the at least two opposite surfaces of the unit.

7. The apparatus of claim 1, wherein the at least two opposite surfaces are proportionally spaced about one-to-one to correspond to the freezing path length.

8. The apparatus of claim 1, further comprising at least one container situatable within the unit for containing the at least one bioproduct.

9. The apparatus of claim 1, wherein the unit comprises a plurality of cells for holding the at least one bioproduct.

10. The apparatus of claim 9, further comprising at least one divider for creating the plurality of cells.

11. The apparatus of claim 10, wherein at least one of the at least one divider is removable.

12. The apparatus of claim 1, further comprising a heat-conductive cladding for the unit.

13. The apparatus of claim 12, wherein the heat-conductive cladding comprises a metal.

14. A system for performing at least one of freezing and thawing of at least one bioproduct on a small scale, comprising:

a unit for at least one of freezing and thawing at least one bioproduct on a small scale, the unit comprising at least two opposite surfaces;

at least one driving device for at least one of freezing and thawing coupleable to at least one of the at least two opposite surfaces; and

at least one container for containing at least one bioproduct specimen within the unit;

wherein the at least two opposite surfaces are proportionally spaced to correspond to a freezing path length of a larger-scale unit or section thereof for at least one of freezing and thawing a bioproduct.

15. The system of claim 14, wherein the at least one driving device comprises at least one conduit for a heat-transfer fluid.

16. The system of claim 15, wherein the at least one conduit comprises a winding conduit.

17. The system of claim 14, further comprising at least two clamping arrays coupled to the unit for holding a plurality of bioproduct containers.

18. The system of claim 17, wherein the at least two clamping arrays are coupled to the at least two opposite surfaces of the unit.

19. The system of claim 14, wherein the at least two opposite surfaces are proportionally spaced about one-to-one to correspond to the freezing path length.

20. The system of claim 14, wherein the at least one container is integral with the unit.

21. The system of claim 20, wherein the at least one container comprises a plurality of cells for holding the at least one bioproduct.

22. The system of claim 21, further comprising at least one divider for creating the plurality of cells.

23. The system of claim 22, wherein at least one of the at least one divider is removable.

24. The system of claim 14, wherein the at least one container is separate from and situatable within the unit.

25. The system of claim 14, further comprising a heat-conductive cladding for the unit.

26. The system of claim 25, wherein the heat-conductive cladding comprises a metal.

27. A method of performing at least one of freezing and thawing of at least one bioproduct on a small scale, comprising:

providing a unit for at least one of freezing and thawing at least one bioproduct, the unit comprising at least two opposite surfaces;

coupling at least one of the at least two opposite surfaces to at least one driving device for at least one of freezing and thawing; and

performing at least one of freezing and thawing on the at least one bioproduct, wherein the bioproduct is situated within the unit.

28. The method of claim 27, further comprising situating the at least one bioproduct within the unit.

29. The method of claim 28, wherein the bioproduct is situated within a container, and wherein the situating comprises situating the container within the unit.

30. The method of claim 27, wherein the unit comprises a plurality of cells for accepting the at least one bioproduct, the method further comprising situating the at least one bioproduct within at least one of the plurality of cells.

31. The method of claim 27, wherein the performing comprises controlling a rate of heat exchange between the at least one driving device and the at least one bioproduct.

32. The method of claim 27, further comprising coupling at least one heating-conductive cladding to the unit.